with the United States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 _____

April 27, 2004
Aaron T. Borrowman, Reg. No. 42,348 Date

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	Group Art Unit: 3627
Richard Tad Lepman	Examiner: Andrew Rudy
Serial No. 09/545,628	
Filed: April 7, 2000	Docket No. BERK-37617
For: PROCESS FOR DETERMINING OBJECT LEVEL PROFITABILITY	

DECLARATION OF RICHARD TAD LEPMAN

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

1. My name is Richard Tad Lepman and I am the inventor of the above-identified patent application. As shown in my attached Curriculum Vita (Exhibit A), I have a great deal of experience in the field of financial services and information technology industries.

2. As fully described in the pending application, the present invention is directed to a process for determining object level profitability; determining accurate, consistent and holistic profit measurement data

not previously available in a data warehouse apparatus. The inventive process calculates independently at least one marginal value of profit for each object being measured in a "bottoms up" manner (i.e. driven by business transactions or events) utilizing a relational database management system. Object attribute values are extracted, conditioned, and loaded into the database as are financial statement attribute values and event attribute values. At least one marginal value of profit is calculated based on the innovative mathematical formulation of accounting calculation applied within a relational database system. Calculating at least one marginal value of profit includes the steps of calculating interest, other revenue, or direct expense and preferably indirect expense. Provisioning, or taking into account the expected profit value adjustment for future outcomes related to the object, or economic value adjustment may also be preferably performed during the calculation of the fully absorbed profit adjustment value for each object being measured.

3. I have reviewed the January 26, 2004 Office Action which asserts that the claims of the present application are rendered obvious in light of excerpts taken from *College Accounting*, 7th Edition, authored by John Ellis Price, and David Haddock, and Horace R. Block (hereinafter "Price"). I have reviewed Price and respectfully disagree with the Examiner as Price only discloses what I have referred to in my application as being "prior art", as illustrated in FIG. 1 and discussed in the Background section of the present application.

4. Price covers the basics of transactional accounting, or bookkeeping. Price does not discuss methods of marginal pricing (activity based costing or funds transfer pricing) necessary for object profit measures which are more detailed than departmental or business segments. In contrast to the present invention, Price states that interest income and interest expense are not allocated in responsibility accounting - Price's detailed or object level profit equivalent. Price's scope is financial

bookkeeping and not economic theory or market based financial concepts, and thus Price is silent on the concepts of funds transfer pricing or of risk based adjustment to profit measures and therefore Price's discussion of contribution margin does not lead to shareholder value add measure.

5. Claim 1 recites a process for determining object level profitability in relational database management system by preparing information to be accessed electronically through the relational database management system and establishing, in the relational database, rules for processing the prepared information. There is no discussion whatsoever in Price as to preparing information to be accessed electronically through a relational database or establishing the types of rules necessary in the relational database for processing prepared information. As discussed above, Price does not combine at least one marginal value of profit and the fully absorbed profit adjustment value to create a measure for object level profitability either. Further, Price's accounting rules do not lead to relational database formulation or mathematical rules making parallel computer financial calculation possible.

6. With respect to claim 3 which recites extracting, conditioning and loading object attribute values into the relational database, the use of a financial object more discrete than management responsibility or business segment requires data not discussed in Price.

7. With respect to claim 4, although Price discusses the creation of financial statements, Price does not discuss whatsoever the extracting, conditioning and loading of financial statement attribute values into a relational database.

8. Claim 5 recites the steps of extracting, conditioning and loading event attribute values into the database. In a relational database, certain attributes of transactions must be included which Price would consider

unnecessary for transactional accounting or marginal valuing attributes. Thus, Price is completely silent with respect to these steps.

9. Claim 6 recites that the preparing step for the inclusive step of calculating opportunity values of funds used or supplied by each object being measured. Net interest revenue calculations require object oriented balance sheet linkage for evaluations. However, Price is totally silent on how to properly value balance sheet dynamics in responsibility accounting and thus completely ignores this step necessary for consistent and holistic detailed profit metrics appropriate for a data warehouse apparatus.

10. With respect to claim 7, Price is completely silent on establishing steps of providing the information necessary to select objects, and performing the correct profit calculus. Price in no way leads to joining relational tables or the filtering rows in Tuples, or joined tables, performing financial calculus.

11. With respect to claims 8-12, Price does not mention the profit calculation recited in these claims required to value a financial object's balance sheet dynamic. The present invention's detailed profit measures, as recited in these claims, are holistic at a more detailed level than a business segment or management unit and more inclusive as it takes into account net interest revenue. Price simply does not imply the use of expected valuing in risk provisioning. Once again, Price is directed to the creation of financial statements in a traditional accounting sense. The present invention combines at least one marginal value of calculated profit and fully absorbed profit adjustment value to create a measure for object level profitability which has much more depth and detail in scope than a financial statement.

12. With respect to claim 13, the present invention adjusts the measure for object level profitability for taxes and/or object economic value. No

economic adjustment is proscribed in Price.

13. With respect to claim 15, the present invention calculates the full absorbed profit adjustment value utilizing the calculated at least one marginal value of profit. This is considered a "bottoms up" taking into account information to analyze each object which is simply not mentioned in Price.

14. With respect to claim 14, the marginal value of profit is calculated in parallel. This is done utilizing the relational database in a structured query language. Price is completely silent as to this aspect of the invention. In the Office Action, "Official Notice" was taken that "performing financial processing using computer software is common knowledge in the art." Although the creation of financial statements and bookkeeping using computer software is common knowledge in the art, performing the "bottoms up" or object level calculations utilizing a relational database is not common knowledge and is a breakthrough technology in the financial world. Based upon my nearly thirty years experience in this field, although account level profitability has been attempted with limited success using computer software, object level profitability using a relational database management system was not in place before my invention and has many benefits over prior methodologies and systems. Preparing the information, creating and establishing rules in the relational database and calculating in parallel in accordance with the present invention allows "bottoms up" or behaviorally based calculation in determination of object level profitability in a manner which has been heretofore unattainable.

15. Attached Exhibits B-M support this assertion. Exhibit B is a copy of an article in the October 7, 2002 European Edition of *Fortune* Magazine describing the problems encountered by companies who are unable to figure out how profitable their customers are. The article states that

"Board of Directors will soon begin to demand customer-profitability data from companies, investors will demand that companies report it." Although the Fortune article discusses some possible solutions to these problems besides the present invention at Royal Bank of Canada, these solutions are not based on event driven (behavior) based profitability measurement solutions developed solely within a relational database.

16. As stated in my November 19, 2003 Declaration, I am the inventor of the present invention. I, through my company Berkeley*IEOR, licensed the invention to NCR, which refers to the invention as "Value Analyzer".

17. Exhibit C is an article stating that NCR won the 2000 CRM Project Award for the implementation of its profitability analysis software. The article states that if used in combination with the Teradata platform (a relational database), Value Analyzer (the invention) is able to analyze enormous volumes of customer behavior data in hours, rather than days. Value Analyzer was launched in 1999 and was recognized for its implementation within Royal Bank of Canada earlier in 2000, according to the article. The *Curley* reference cited in the August 4, 2003 Office Action was directed to the Royal Bank of Canada implementation of my invention.

18. Exhibit D is directed to an NCR press release which indicates the uniqueness of the present invention, to wit: "Teradata Value Analyzer's detailed, behavior based approach differs from more traditional measurement tools that determine profitability by using high-level averages or aggregations." This press release points to a weakness of the prior art, namely, detailed profit measures based upon "averages", as discussed in Price. The present invention overcomes these weaknesses.

19. Exhibit E is another NCR press release describing my invention as "an end-to-end solution that pinpoints profitability calculations across five

distinct components at the fundamental level, the billing telephone number." The components are: revenue (direct and indirect), interest revenue/expense, direct expense (applied to customer behavior or events), indirect expense (cost of doing business), and risk provision (applying the cost of credit and other potential risks and fraud)". This article further states that the invention uses "complex mathematical models" and "detailed data." As discussed above, the distinct components at the fundamental level are recited in claims 8-12 of the present invention, and not in Price.

20. Exhibit F is an NCR white paper, discussing the type of "rules based" process the invention is. The paper's definition of the "rules" are clearly distinct from Price, as are the rules in the present application and claims, as the invention uses metadata driven rules for a dynamic solution customizable for each unique business.

21. Exhibit G is another NCR white paper stating that the invention "helps users better understand the value of their customers". It measures in detail, the components of customer revenue and customer expense at the basic unit and transactional level. From this data, companies can develop any number of aggregations, including by customer or household, by channel, by product, or by organization. The calculations involve the measurement of each basic units profit contribution across five components: base revenue, net interest revenue, direct expense, indirect expense and risk provision. This approach allows easy reconciliation with a general ledger and consistent data analysis-certainly a revolutionary step for many companies. "This article points out other profitability measurement systems use summaries, or proxies, or even the "smallest inaccuracies or missing data will have dramatic impact" on profitability measures. Lastly, the article indicates that the invention is internal to the relational database by stating "all data relating to the rules of the profitability model are stored in the database and can be retrieved."

22. Exhibits H and I are also NCR publications which discuss Value Analyzer (my invention). As stated in these articles, the invention "takes a bottom up approach that begins with the transactions, events and activities of the business. By measuring profitability at a detailed level, it provides you with consistent and accurate profit level analytics across a complex set of business functions and views." The articles also paint the prior art approaches, such as Price, distinctly - "traditionally, businesses have based their profitability calculations on averages and assumptions derived from the financial systems of record, particularly general ledgers."

23. Exhibit J is an NCR document describing the customer success story of Royal Bank of Canada, which the Examiner based his first rejection upon. The article states that the improvement obtained by using the methodology of the present invention, "75% of our customers move to or more deciles" - a very significant shift, especially for Royal Bank of Canada, which was already using sophisticated evaluations.

24. Exhibit K illustrates the business case and application of the present invention in the telecommunications industry. The document describes the ability of the invention to accurately measure margin per user, a new performance metric for telecommunications providers.

25. Exhibit L is a product review of the present invention (Teradata Value Analyzer). Of the competing products mentioned, none of these other solutions is a pure relational database solution or use a "bottom up" approach based on set theory mathematical accounting models. The document cites fifteen successful banking industry implementations of the present invention.

26. Exhibit M is an article taken from *Retail Banking Technologies* describing the benefit case and uniqueness of the present invention. It

cites prior solutions which were based, procedural not relational and using samples or averages. It states that the present invention uses "the smallest possible item of data, and combining it with the capability to aggregate and analyze it in an infinite variety of different ways".

27. In summary, traditional accounting methods, as described in Price, do not teach or disclose my invention. Whereas Price is concerned with transactional accounting creating financial statements or general ledgers, my invention determines object level profitability which requires rules, considerations, and information beyond that contemplated by Price. Due to the scale and complexity of the analysis, I have implemented the invention within a relational database, which has not been done before and allows the information to be analyzed in hours instead of days for a major Bank using parallel calculations processes. I believe that the aforementioned documents contained in the attached Exhibits show the non-obviousness of the invention due to the awards and accolades the invention has received and the success it has generated in various industries.

The undersigned declares that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such false statements may jeopardize the validity of the application or any registration resulting thereon.

April 26, 2004
Date

Richard Tad Lepman